

DEC 04 2006

Application No: 09/433,202

REMARKS

Claims 39-58 are pending. Claims 39, 44 and 45 are corrected to remove an informality noted by the Examiner. Claim 39 is also amended to more particularly point out Applicants' claimed invention. The amendment of claim 39 is supported by the specification, for example, at page 19, lines 20-22. No new matter is introduced by the amendments.

The Examiner withdraw claim 49 based on this claim being directed to a non-elected invention. Applicants note that claim 39 is a linking claim, and respectfully request consideration of claim 49 upon allowance of a linking claim.

Claims 39-48 and 50-58 stand rejected. Applicants respectfully request reconsideration of the rejection based on the following comments.

Objection to the Claims

The Examiner objected to claims 39, 44 and 45 based on inadvertent informalities. Applicants sincerely thank the Examiner for a careful reading of these claims. These claims have been corrected. In view of the correction, Applicants respectfully request withdrawal of the objection to claims 39, 44 and 45.

Rejection Over Hampden-Smith et al.

The Examiner rejected claims 39-43, 46-48, 50-54 and 56-58 under 35 U.S.C. § 102(e) as being anticipated by or, alternatively, under 35 U.S.C. § 103(a) as obvious over published U.S. Patent application 2002/0003225 to Hampden-Smith et al. (Hampden-Smith). The Examiner noted that Hampden-Smith discloses ceria and zirconia for polishing. Applicants have amended their claims to more particularly point out their claimed invention. Based on the clarification to

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the claims, Hampden-Smith clearly does not render the claims *prima facie* anticipated or obvious. Applicants respectfully request reconsideration of the rejection based on the following comments.

With all due respect, Applicants believe that there has been a misunderstanding. The Office Action on page 3 indicated that the "particles are either (1) single crystals (size at least 20 nm) or (2) agglomerates of numerous crystals (size of 0.1-.75 microns (100-750 microns))." Hampden-Smith only teaches one situation involving agglomerates of numerous crystals with crystallites each on the order of tens of nm and resulting polycrystalline particle sizes in the range of hundreds of nanometers or larger. This is consistent with the statement in Hampden-Smith paragraph [0228] that the "abrasive particles of the present invention are also substantially spherical. That is, the particles are not jagged or irregular in shape. "

Single crystal or minorly fused crystalline particles are not spherical; they are jagged and irregular. Applicants particles are jagged and irregular. Applicants have amended their claims to indicate that the particles have visible facets corresponding with the underlying crystal lattice, i.e., the particles are jagged and irregular. Thus, Hampden-Smith does not anticipate Applicants' claimed invention. Similarly, Hampden-Smith teaches away since the reference teaches that spherical particles are desired and does not describe how to produce different particles. Thus, Hampden-Smith clearly does not render Applicants' claimed invention obvious since it teaches away.

Since Hampden-Smith does not *prima facie* anticipate or render obvious Applicants' claimed invention, Applicants respectfully request withdrawal of the rejection of claims 39-43, 46-48, 50-54 and 56-58 under 35 U.S.C. § 102(e) as being anticipated by or, alternatively, under 35 U.S.C. § 103(a) as obvious over Hampden-Smith.

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Rejection Over Hampden-Smith et al. in View of Shyu or Chittofratti et al.

The Examiner rejected claims 44-45 under 35 U.S.C. § 103(a) as being unpatentable over Hampden-Smith in view of U.S. Patent 5,196,388 to Shyu (Shyu) or U.S. Patent 5,424,438 to Chittofratti et al. (Chittofratti). The Examiner cited Shyu and Chittofratti for their respective teachings of aluminum titanate and aluminum silicate as polishing agents. However, Applicants respectfully assert that the combine teachings of the references do not provide a reasonable expectation of success such that the references do not render Applicants' claimed invention *prima facie* obvious. Applicants respectfully request reconsideration of the rejection based on the following arguments.

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

The shortcomings of Hampden-Smith in view of Applicants' present claims are discussed in detail above. In addition, Hampden-Smith does not teach or suggest formation of aluminum titanate or aluminum silicate nor how to form these materials. Shyu teaches a solution based approach to form particles with no relationship to the approach of Hampden-Smith. Chittofratti does not teach forming materials. Since there is no reasonable expectation of success with respect to the materials

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of these claims and since the combined teachings do not teach or suggest crystalline particles with visibly observable facets, the combined teaching of the cited references does not provide a reasonable expectation of success informing submicron aluminum titanate or aluminum silicate. Therefore, the combined teachings of the references do not render claims 44 and 45 *prima facie* obvious. Applicants respectfully request withdrawal of the rejection of claims 44 and 45 under 35 U.S.C. § 103(a) as being unpatentable over Hampden-Smith in view of Shyu or Chittofrati.

Rejection Over Hampden-Smith et al. in View of Farkas et al.

The Examiner rejected claim 55 under 35 C.F.R. § 103(a) as obvious over Hampden-Smith in view of U.S. Patent 6,001,730 to Farkas et al. (Farkas). The Examiner cited Farkas for teaching polishing compositions in which the solvent can be water, an alcohol or mixtures thereof. However, Farkas does not make up for the deficiencies over Hampden-Smith discussed above. In particular the combined teachings of the references do not teach crystalline particles with diameters less than 500 nm with visibly observable facets corresponding with the underlying crystal lattice. In particular, Hampden-Smith teaches away from this invention. Thus, the combined teachings of Hampden-Smith and Farkas do not render the claimed invention *prima facie* obvious. Applicants respectfully request withdrawal of the rejection of claim 55 under 35 C.F.R. § 103(a) as being obvious over Hampden-Smith in view of Farkas.

Obviousness-Type Double Patenting Rejection - 09/841,255

The Examiner provisionally rejected claim 58 under nonstatutory obviousness-type double patenting as being unpatentable over claims 6 and 25 of copending Application No.

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09/841,255. Since this is a provisional rejection, Applicants will consider filing a Terminal Disclaimer once these claims or the claims of the 09/841,255 have been found allowable.

Obviousness-Type Double Patenting Rejection - 09/841,255 in view of Hampden-Smith, Sachan et al., Farkas et al. and Chittofrati et al.

The Examiner provisionally rejected claims 39, 40, 41, 45-48 and 50-57 under nonstatutory obviousness-type double patenting as being unpatentable over claims 26-31 of copending Application No. 09/841,255 in view of Hampden-Smith et al., Sachan et al., Farkas et al. alone or further in view of Chittofrati et al. Since this is a provisional rejection, Applicants will consider filing a Terminal Disclaimer once these claims or the claims of the 09/841,255 have been found allowable.

#### CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Peter S. Dardi, Ph.D.  
Registration No. 39,650

Customer No. 62274  
Dardi & Associates PLLC  
US Bank Plaza, Suite 2000  
220 South 6<sup>th</sup> Street  
Minneapolis, Minnesota 55402  
Telephone: (404) 949-5730